



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Y. Tian *et al.*

Examiner: Thompson, Camie S.

Application No.: 10/823,288

TC/Art Unit: 1774

Title: Methods and Devices Using High Efficiency
Alkaline Earth Metal Thiogallate-Based
Phosphors

Confirmation No.: 4541

Filed: April 13, 2004

Attorney Docket No.: SAR-14916A (18703-492)

Customer No.: 58882

Date: October 20, 2006

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed PTO/SB/08 form. Copies of the U.S. patents and publications are not provided.

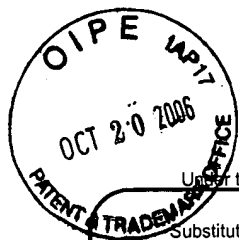
It is respectfully requested that the PTO/SB/08 form be initialed and returned, indicating that the cited documents have been considered.

Applicants' undersigned attorney may be reached by telephone at (973) 597-2500. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,
LOWENSTEIN SANDLER P.C.
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Application Number	10/823,288
Filing Date	April 13, 2004
First Named Inventor	Yongchi Tian
Art Unit	1774
Examiner Name	Thompson, Camie S.
Attorney Docket Number	18703-492

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	1	US-2003/222268	Yocom <i>et al.</i>	12/4/2003	
	2	US-2003/227007	Ezuhara <i>et al.</i>	12/11/2003	
	3	US-2003/228412	Chen, H.	12/11/2003	
	4	US-2004/116033	Ouderkirk <i>et al.</i>	6/17/2004	
	5	2004/135504	Tamaki <i>et al.</i>	7/15/2004	
	6	2004/145288	Ouderkirk <i>et al.</i>	7/29/2004	
	7	2004/145289	Ouderkirk <i>et al.</i>	7/29/2004	
	8	2004/145312	Ouderkirk <i>et al.</i>	7/29/2004	
	9	2004/145895	Ouderkirk <i>et al.</i>	7/29/2004	
	10	2004/145913	Ouderkirk <i>et al.</i>	7/29/2004	
	11	2004/150991	Ouderkirk <i>et al.</i>	8/5/2004	
	12	2004/15990	Ouderkirk <i>et al.</i>	8/19/2004	
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	14	2005/211992	Nomura <i>et al.</i>	9/29/2005	
	15	2005/218780	Chen	10/6/2005	
	16	2005/218781	Chen	10/6/2005	
	17	2005/224828	Oon <i>et al.</i>	10/13/2005	
	18	2005/230689	Setlur <i>et al.</i>	10/20/2005	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	19	GB 864,343	Wells	4/6/1961		
	20	GB 1,087,655	Robin <i>et al.</i>	4/14/1965		
	21	GB 1,414,381	King <i>et al.</i>	11/19/1975		
	22	WO2006/001297 [English Abstract Only]	Yamaguchi	1/5/2006		
	23	WO2006/028104 [English Abstract Only]	Kuze <i>et al.</i>	3/16/2006		

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Sheet 2

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		Number-Kind Code ² (if known)			
	24	2005/239227	Aanegola <i>et al.</i>	10/27/2005	
	25	2006/012287	Tian <i>et al.</i>	1/19/2006	
	26	2006/022582	Radkov	2/2/2006	
	27	2006/027781	Dong <i>et al.</i>	2/9/2006	
	28	2006/027785	Wang <i>et al.</i>	2/9/2006	
	29	2006/027786	Dong <i>et al.</i>	2/9/2006	
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	31	2006/033081	Hintzen <i>et al.</i>	2/16/2006	
	32	2006/038477	Tamaki <i>et al.</i>	2/23/2006	
	33	2006/049414	Chandran <i>et al.</i>	3/9/2006	
	34	2006/061252	Sohn <i>et al.</i>	3/23/2006	
	35	2006/071589	Radkov	4/6/2006	
	36	2006/097245	Aanegola <i>et al.</i>	5/11/2006	
	37	2006/145123	Li <i>et al.</i>	7/6/2006	
	38	2006/181192	Radkov <i>et al.</i>	8/17/2006	
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	45	AKELLA, A. and D. A. Keszler, "Sr ₂ LiSiO ₄ F: Synthesis, Structure, and Eu ²⁺ Luminescence," Chem. Mater. 7(7):1299-302 (1995).	
	46	BANDO, K., et al., "Development and Application of High-Brightness White LEDs," Tech Digest, Phosphor Res. Soc., 264th Meeting, 5-14 (November 29, 1996). [In Japanese with English Summary]	
	47	BURRUS, H. L. et al., "Fluorescence of Eu ²⁺ -Activated Alkaline Earth Halosilicates," J. Luminescence 3: 467-76 (1971).	
	48	CZAYA, V. R. and G. Bissert, "Die Kristallstruktur von Tricalciummonosilikatdichlorid (Ca ₂ SiO ₄ -CaCl ₂)," Acta Cryst. B27:747-53 (1971). [In German with English Abstract]	
	49	GARCIA, A. et al., "Ba ₅ SiO ₄ Cl ₆ :Eu, A New Blue-Emitting Photoluminescent Material with High Quenching Temperature," J. Electrochem. Soc.: SOLID-STATE SCIENCE AND TECHNOLOGY 126(10):1734-36 (October 1979).	
	50	GOLOVASTIKOV, N. I. And V. F. Kazak, "The Crystal Structure of Calcium Chlorosilicate Ca ₂ SiO ₃ Cl ₂ ," Sov. Phys. Crystallogr. 22(5):549-51 (September-October 1977).	
	51	HERMONEIT, B. et al., "Single Crystal Growth and Some Properties of the New Compound Ca ₃ Si ₂ O ₇ ·1/3CaCl ₂ ," J. Cryst. Growth 52:660-62 (1981).	
	52	LIU, J. et al., "Eu ²⁺ -Doped High-Temperature Phase Ca ₃ SiO ₄ Cl ₂ : A Yellowish Orange Phosphor for White- Emitting Diodes," J. Electrochem. Soc., 152(11): G880-84 (2005).	
	53	NAKAMURA S., et al., "Superbright Green InGaN Single-Quantum-Well-Structure Light-Emitting Diodes," Jpn. J. Appl. Phys. (Letters) 34 (Pt. 2, No. 10B):L1332-35 (October 15, 1995).	
	54	PETERS, T. E. and J. A. Baglio. "Luminescence and structural properties of thiogallate phosphors Ce ³⁺ and Eu ²⁺ -activated phosphors. Part I." J. Electrochem. Soc. 19(2):230-36 (1972).	

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	55	PETERS, T. E. "Luminescent properties of thiogallate phosphors: II. Ce ³⁺ -activated phosphors for flying spot applications," J. Electrochem. Soc. 119(12):1720-23 (1972).	
	56	SUN, J. et al., "Study on Luminescence Properties of Eu ²⁺ in (Sr, Ca) ₄ Si ₃ O ₈ Cl ₄ Host Lattice," Guang Pu Xue Yu Guang Pu Fen Xi, 25(11):1760-63 (November 2005). [In Chinese with English Abstract]	
	57	WANMAKER, W. L. and J. G. Verriet, "Luminescence of Phosphors with Ca ₃ SiO ₄ Cl ₂ as the Host Lattice," Philips Res. Repts. 28:80-83 (1973).	
	58	WINKLER, A. et al., "On Chloride Silicates of Calcium, Strontium, and Barium," Z. Anorg. Allg. Chem. 504:89-94 (1983). [In German; German & English Abstracts Only]	
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	60	YEN, W. M. and M. J. Weber, Inorganic Phosphors-Composition, Preparation and Optical Properties, CRC Press: Boca Raton, 2004, pp.81-85.	
	61	ZHANG, X. and X. Liu, "Luminescence Properties and Energy Transfer of Eu ²⁺ Doped Ca ₈ Mg(SiO ₄) ₄ Cl ₂ Phosphors," J. Electrochem. Soc. 139(2):622-25 (February 1992).	
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